

REMARKS

Without acquiescing to the propriety of the rejections in the final Office Action dated July 6, 2006, claims 1, 6, 8, and 15 have been amended. Entry of these amendments, reconsideration of the application, and allowance of all claims pending herein are respectfully requested in view of the remarks below. Claims 1-4, 6-11, 13-16 and 19 are now pending.

Objection to Claim 6

Claim 6 was objected to because the word “are” was added in the amendment to the claims in Applicant’s Response to Final Office Action dated September 5, 2006, but not underlined. Applicant respectfully submits another amendment to claim 6 by underlining the word “are” to show that this word was added. Accordingly, withdrawal of this objection and allowance of claim 6 is respectfully requested.

§ 102 Rejections:

Claims 1-4, 6-11 and 13-16 and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,599,622 to Folmsbee.

Amended independent claim 1 of the present application recites, *inter alia*, a check valve comprising a body configured to permit fluid to flow therethrough. The body includes a flange extending circumferentially around an inner periphery of the body. The flange has an inner surface defining a valve aperture. The check valve further comprises a poppet valve moveably mounted within the valve aperture. The poppet valve includes a longitudinal axis, a head, a continuous annular ring and a plurality of guide legs between the head and the continuous annular ring. The plurality of guide legs extends from the head and through the valve aperture. Each of the plurality of guide legs includes an outer peripheral surface facing the inner surface of

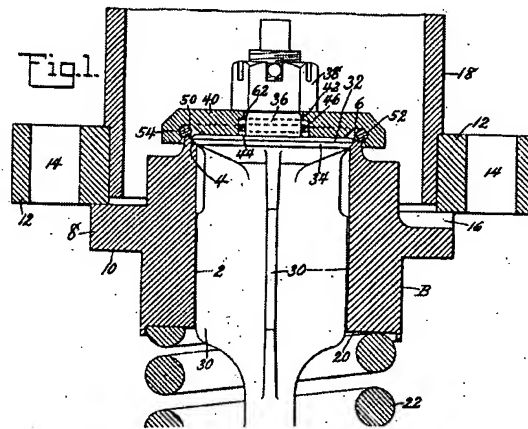
the flange. The outer peripheral surface includes a radial first section, a radial second section, and a radial second section. Each of these radial sections is substantially parallel to and extends along the longitudinal axis of the poppet valve. The radial second section is recessed back from the radial first section and the radial third section in relation to the inner surface of the flange. The radial first section and the radial third section are at the same radial distance from the longitudinal axis.

Amended independent claim 8 recites an outer peripheral surface including a first section spaced at a first radial distance from the longitudinal axis, a second section spaced at a second radial distance from the longitudinal axis to allow debris to pass between the second section and the inner surface of the flange while the valve is in an open position, and a third section spaced at the first radial distance from the longitudinal axis, wherein the first radial distance is greater than the second radial distance. Each of the three sections of the outer peripheral surface is substantially parallel to and extends along the longitudinal axis of the poppet valve. Amended independent claim 15 recites a flow path being defined between a recessed section of the radial outer peripheral surface, which is substantially parallel to and extends along, the longitudinal axis of the poppet valve, and the inner surface of the flange while the poppet valve is in an open position to allow for debris to pass between the radial outer peripheral surfaces and the inner surface of the flange. The recessed section is at a first radial distance from the longitudinal axis and all other sections of the outer peripheral are at a second radial distance from the longitudinal axis.

Applicant recognized that a portion of the outer peripheral surface of each of the plurality of guide legs being recessed, cut back or at a smaller radial distance from the longitudinal axis of the poppet valve from the rest of the outer peripheral surface of each guide leg provides for self

cleaning of the valve by allowing debris to pass through the valve while preventing the lodging of the guide legs by debris in the valve aperture. The poppet valve moves around more with the recessed or cut back sections during operation, which assist in shaking or cleaning out debris that, in the past, lodged between the guide legs and inner surface of the flange. See Specification, paragraph [0007].

In contrast, Folmsbee (U.S. Patent No. 2,599,622) discloses a safety valve intended for use with dangerous gases shown below:



The valve arrangement disclosed in Folmsbee has a valve body B consisting of a one-piece member having a central bore 2 and a top surface of the member *beveled* to provide a valve seat 4. The valve stem has a plurality of wings 30 and a valve seating surface 34 that engages the seating surface 4 of the valve body.

Folmsbee does not disclose a poppet valve or a plurality of guide legs of a poppet valve extending from a head and through a valve aperture. Folmsbee also fails to disclose three sections of outer peripheral surfaces of guide legs being substantially parallel to and extending along the longitudinal axis of a poppet valve, as required by the claims of the present invention. Instead, Folmsbee teaches a valve stem using a plurality of *wings* 30 that merge into the valve seat 32. Folmsbee, col. 2, lines 11-15. The point opposite the wings near the valve seat and

intersecting with the valve seating surface 34 and originating from the lower portion of the wings (which the Office Action attempts to equate with the radial first section recited in the claims) is not a section of the outer peripheral surface that extends along the longitudinal axis of the valve. In fact, this intersecting point is part of an angled section of the outer peripheral surface in relation to the longitudinal axis of the valve (i.e. not parallel to the longitudinal axis).

Based on Figure 1 in Folmsbee, the valve seating surface 34 is at the same angle in relation to the longitudinal axis as the angled surface of the wings containing the “intersecting point.” Folmsbee specifically teaches that this valve seating surface 34 is carefully machined and adapted to engage the *beveled* seating surface 4 (Folmsbee, col. 1, lines 37-38; col. 2, lines 11-15). The valve seating surface 34 is also not part of the “wings” based on the description that the wings merge into the valve 32. Folmsbee, col. 2, lines 11-13. According to Folmsbee, this provides a valve seating surface adapted to engage the seating surface 4 of the valve body. Folmsbee, col. 2, line 14-15. Therefore, Folmsbee specifically teaches the section of the outer peripheral surface of wings 30 containing the “intersecting point” to be angled to merge into the angled valve seating surface 34 of the valve stem to engage the beveled valve seat 4. Folmsbee does not teach or suggest that the section of the outer peripheral surface of the wings containing the “intersecting point” is substantially parallel to and extending along the longitudinal axis of the valve as required by the claims. Accordingly, Folmsbee does not teach three sections of the outer peripheral surfaces of guide legs that are substantially parallel to and extend along the longitudinal axis of the valve.

Since Folmsbee does not teach a poppet valve, a plurality of guide legs, or three sections of the outer peripheral surfaces of the guide legs that are substantially parallel to and extending along the longitudinal axis of the valve, independent claims 1, 8 and 15 are not anticipated or

rendered obvious in view of Folmsbee. Therefore, it is respectfully submitted that the above anticipation rejections of claims 1-4, 6-11, 13-16 and 19 are now overcome and withdrawal of this grounds for rejection and allowance of these claims are respectfully requested.


CONCLUSION

For all of the above reasons, it is respectfully submitted that independent claims 1, 8 and 15 are patentable over the applied prior art. The dependent claims are believed allowable for the same reasons noted above in connection with independent claims from which they directly or ultimately depend, as well as for their own additional features.

It is believed that the application is in condition for allowance, and such action is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided. If any extension of time is required for this Response, the Office may charge Deposit Account No. 08-1935 of the undersigned.

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Respectfully submitted,


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